

* HISTORY *

[illegible]

REV: B	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")	
NOTE: MILITARY SPECIFICATIONS /STANDARDS WILL NOT BE FURNISHED IN THE BID SET.		
1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF CYLINDER, STRUT, MLG		
2. PART NUMBER 14-40602-7	3. NATIONAL STOCK NUMBER 1620-01-134-9231	
4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.		
5. PER DRAWING REQUIREMENTS, PERFORM FLUORESCENT PENETRANT INSPECTION PER ASTM E 1417, TYPE I, METHOD B OR C, LEVEL 3 OR 4 IN LIEU OF MIL-I-6866 WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED . THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.		
6. PER DRAWING REQUIREMENTS, PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF MIL-I-6868. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED . THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.		
7. PER DRAWING REQUIREMENTS, MARK AND IDENTIFY PER MIL-STD-130 IN LIEU OF IM-8 AND IM-24.		
8. PER DRAWING REQUIREMENTS, HEAT TREAT ALUMINUM ALLOYS PER SAE AMS-H-6088 IN LIEU OF HT9.2.		
9. PER DRAWING REQUIREMENTS, HEAT TREAT PER SAE AMS-H-6875 IN LIEU OF HT-17, HT-21 AND HT-22.		
10. PER DRAWING REQUIREMENTS, FINISH PER MIL-C-16173 GR 1 OR 2 IN LIEU OF NFS 76.		
11. PER DRAWING 6-40638, MATERIAL PER ASTM B196, B197, B194 IN LIEU OF NAI-1255 AND QQ-C-530.		
12. PER DRAWING 6-40637 ECO 82C293, MATERIAL PER SAE AMS 4881 IN LIEU OF NAI-1255.		
13. PER DRAWINGS 14-40636, 14-40622 AND 14-40642, MATERIAL PER SAE AMS-S-6758 COND. D1, D3 AND D4 IN LIEU OF MIL-S-6758.		
14. PER DRAWING 14-40632, MATERIAL PER SAE AMS-QQ-S-763 IN LIEU OF QQ-S-763.		
15. PER DRAWING REQUIREMENTS, CADMIUM PLATE PER SAE AMS-QQ-P-416 TYPE II, CL 3 FOR HEAT TREAT UNDER 180,000 PSI. OVER 180,000 PSI USE MIL-STD-870 TYPE II CL 2 IN LIEU OF STF0173, STF0175 AND FP-2.		
16. USE SAE AMS-A-22771 IN LIEU OF MP-314 AND NAI 1306.		
17. TOUCH UP BY USING THE FOLLOWING IN LIEU OF STF0273: SAE AMS-C-5541 IN LIEU OF FP-28, PRIMER PER MIL-PRF-23377 IN LIEU OF FP-80 AND CHROME ACID BRUSH PER SAE AMS-M-3171 TYPE IV IN LIEU OF F-5.3.		
17.A APPLY FINISH SYSTEM IN LIEU OF STF0160: SULFURIC ACID ANODIZE PER SAE-AS-8625 TYPE II CL 1.		
PREPARED BY SANDI FIELD	SYMBOL LGMPM	DATE 21 OCT 2003

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<p>18. APPLY FINISH SYSTEM IN SEQUENCE IN LIEU OF STF0337: SULFURIC ACID ANODIZE PER SAE AMS-A-8625 TYPE II CL 1. CORROSION PREVENTATIVE COMPOUND PER MIL-PRF-16173 GRADE 2.</p> <p>19. APPLY FINISH SYSTEM IN SEQUENCE: SULFURIC ACID ANODIZE PER SAE AMS-A-8625 TYPE II CL 1. APPLY ONE COAT EPOXY WATERBORNE PRIMER PER MIL-PRF-85582 TYPE 1, CL 2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377 TYPE 1. APPLY TWO TOPCOATS POLYURETHANE PER MIL-PRF-85285 TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595 IN LIEU OF STF0120, WHICH HAS BEEN CANCELLED.</p> <p>20. THREADS PER MIL-S-007742 IN LIEU OF FH-32.</p> <p>21. PASSIVATE PER SAE AMS-QQ-P-35 IN LIEU OF STF0168.</p> <p>22. PRESERVATION, PACKING, HANDLING AND STORAGE PER MIL-C-81309 IN LIEU OF P6968.</p> <p>23. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL) IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LILE SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE (FSCM) OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-01-001".</p> <p>24. APPLY A THIN UNIFORM COATING OF PRIMER PER MIL-PRF-23377 OR MIL-PRF-85582 AFTER CADMIUM PLATING TO ALL BUSHING BORES AND ALLOW TO FULLY CURE PRIOR TO INSTALLATION OF BUSHING . PRIMER SHALL NOT OBSTRUCT GREASE PASSAGES.</p> <p>25. INSTALL BUSHINGS PER THE FOLLOWING IN LIEU OF MA-103:</p> <p>A. THE BUSHING INSTALLATIONS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO AVOID DAMAGE TO THE FINISH ON THE I.D. OF THE HOUSING INTO WHICH THE BUSHING IS INSTALLED, OR THE FINISH OF THE O.D. OF THE BUSHING. FORCED INSTALLATION OF SUB-ZERO INSTALLATIONS, SUCH AS THE USE OF A PRESS OR HAMMER IS NOT PERMITTED, AND IS NOT ACCEPTABLE. A SMALL NON-METALLIC HAMMER MAY BE USED TO TAP THE BUSHING INTO ALIGNMENT WITH THE HOUSING BORE, OR TO SEAT THE BUSHING.</p> <p>B. PRIOR TO BUSHING INSTALLATION, THE PARTS AND HOUSING BORE SHALL BE CLEANED WITH A CLEANING SOLVENT TO REMOVE ALL CONTAMINATION.</p> <p>C. LIQUID NITROGEN SHALL BE USED FOR ALL SUB-ZERO INSTALLATIONS UNLESS SOME OTHER SUB-ZERO COOLANT IS SPECIFIED, AND APPROVED BY OO-ALC/LILE ENGINEERING. THE SOAK TIME OF THE BUSHING IN THE LIQUID NITROGEN SHALL BE SUFFICIENT TO ALLOW THE BUSHING TO REACH THE SAME TEMPERATURE AS THE COOLANT.</p>		
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<p>D. THE BUSHING SHALL BE INSTALLED INTO THE HOUSING IMMEDIATELY UPON REMOVAL FROM THE COOLANT WITH AN ABSOLUTE MINIMUM OF LOST TIME. TRIAL RUNS SHALL BE ACCOMPLISHED AS NECESSARY TO MINIMIZE INSTALLATION TIME WHICH SHOULD BE IN THE ORDER OF ABOUT SEVEN (7) SECONDS MAXIMUM.</p> <p>E. IT MAY OCCASIONALLY BE NECESSARY TO HEAT THE HOUSING INTO WHICH THE BUSHING IS TO BE INSTALLED, IN ADDITION TO SUB-ZERO COOLING OF THE BUSHING. DETAIL PARTS IN PROCESS, WILL NOT HAVE PAINT OR SEALANT OR OTHER ORGANIC MATERIAL APPLIED PRIOR TO HEATING, THE PARTS SHALL BE HEATED BY THE USE OF RADIANT HEAT TECHNIQUES, SUCH AS THERMAL BLANKETS, INFRARED LAMPS ETC.; TO THE MAXIMUM TEMPERATURE OF 250 F. TEMPERATURE MEASURING DEVICES SHALL BE USED TO MONITOR HEAT AND SHALL BE LOCATED ON AREAS OF THE PART EXPECTED TO REACH MAXIMUM TEMPERATURE. NO SCALING, OXIDATION, OR CORROSION SHALL BE PERMITTED.</p> <p>F. BUSHINGS WITHOUT FLANGES SHALL BE INSTALLED INTO HOUSING BORE WHICH HAS RECEIVED A LIGHT COAT OF SEALANT PER MIL-PRF-81733. INSTALL SHRUNKEN BUSHING AND WIPE OFF ANY EXCESS SEALANT THAT MAY HAVE EXTRUDED AROUND THE PERIPHERY OF BOTH ENDS OF THE BUSHINGS.</p> <p>G. BUSHINGS WITH FLANGES SHALL BE INSTALLED IN A SIMILAR MANNER AS PARAGRAPH (F) EXCEPT SEALANT SHALL ALSO BE APPLIED TO FACE OF LUG UNDER FLANGE. SEALANT SHALL BE APPLIED IN SUCH A MANNER AS TO ENSURE COMPLETE COVERAGE OF INSIDE FACE OF BUSHING FLANGE WHEN BUSHING IS INSTALLED. WIPE OFF ANY EXCESS SEALANT AROUND PERIPHERY OF BUSHING FLANGE. WIPE ANY EXCESS SEALANT FROM OTHER END OF BUSHING ALSO.</p> <p>H. FOR BUSHINGS WITH EXTERNAL GREASE GROOVES, THE INSIDE OF THE LUG WILL BE COATED WITH MIL-C-16173 PRIOR TO BUSHING INSTALLATION AND FACE OF LUG WILL BE COATED WITH MIL-PRF-81733 PER PARAGRAPH G, IF BUSHING IS FLANGED.</p> <p>26. THE FORGING SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.</p> <p>A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.</p> <p>B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.</p>		
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<p>27. THE FORGING SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES.</p> <p>A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.</p> <p>B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-A-22771 IN LIEU OF NAI-1306 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.</p> <p>28. FORGING SOURCE, CONTROL AND LOCATION OF DIES:</p> <p>A. FORGING DRAWING: 14-40602-1-3-5F</p> <p>B. DIE #: 6796</p> <p>C. CONTROL OF FORGING PROCESS: NORTHROP</p> <p>D. LOCATION OF FORGING DIES:</p> <p>KAISER ALUMINUM 1001 MCWANE BLVD. P.O. BOX 2398 OXNARD, CA 93034 (805) 488-4401 CAGE: 28317</p> <p>29. IF FORGING SOURCE IS NOT IDENTIFIED PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL ADVISE THE GOVERNMENT IN WRITING OF THE INTENT TO PROCURE NEW FORGING DIES AND THE PROPOSED FORGING SOURCE. THE CONTRACTOR SHALL NOT PROCEED TO OBTAIN NEW FORGINGS DIES WITHOUT THE EXPRESS WRITTEN CONSENT OF THE GOVERNMENT-PROCURING ACTIVITY. THE GOVERNMENT SHALL HAVE UNLIMITED USE OF THE DIES DEVELOPED UNDER THIS CONTRACT. THE CONTRACTOR SHALL INFORM THE FORGING HOUSE IN WRITING, AT THE SAME TIME OF THE ORDER FOR THE DIES IS PLACED, THAT THE GOVERNMENT HAS UNLIMITED USE RIGHTS OF THE DIES AND FORWARD A COPY OF THIS LETTER TO THE GOVERNMENT CONTRACTING OFFICER.</p>		
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<p>30. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LGHEL FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.</p> <p>31. OO-ALC/LGHEL SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT MRB'S PRIOR TO SHIPMENT OF DISCREPANT ITEMS. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE WILL BE SUBMITTED FOR MRB DISPOSITION.</p> <p>32. PRIOR TO CONTRACT AWARD, THE CONTRACTOR WILL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO THIS OFFICE OO-ALC/LGHEL.</p>		
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